Senate Bill No. 1415

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Passed the Senate August 28, 1998

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Secretary of the Senate

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Passed the Assembly August 27, 1998

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Chief Clerk of the Assembly

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This bill was received by the Governor this ___ day

of _____, 1998, at ___ o'clock __M.

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Private Secretary of the Governor

CHAPTER ____

An act relating to the Chabot Observatory and Science Center, and making an appropriation therefor.

LEGISLATIVE COUNSEL'S DIGEST

SB 1415, Burton. Chabot Observatory and Science Center: Lewis Center for Educational Research.

Existing law does not contain any provision relating to the Chabot Observatory and Science Center or the Lewis Center for Educational Research.

This bill would make various legislative findings and declarations relative to the Chabot Observatory and Science Center, a joint powers agency created by the City of Oakland, the Oakland Unified School District, and the East Bay Regional Park District, and the Lewis Center for Educational Research, which began as a public educational facility under the Apple Valley Unified School District in 1990 and is home to a California public school, grades K-12, operated by the High Desert ''Partnership in Academic Excellence'' Foundation.

This bill would appropriate from the General Fund a sum not to exceed $5,000,000 to the joint powers agency to fund the completion of a new Chabot Observatory and Science Center facility and its science education programs and a sum not to exceed $2,000,000 to the town of Apple Valley for a grant to the foundation to purchase land and build the new Lewis Center for Earth Science. The bill would also require the Legislative Analyst to review and report to the Legislature on the use of those funds upon completion of the facilities.

Appropriation: yes.

The people of the State of California do enact as follows:

SECTION 1. The Legislature finds and declares all of the following:

(a) The historic Chabot Observatory began as a public observatory in downtown Oakland, serving Oakland

citizens and the greater bay area community, and through its programs has welcomed and educated over two million visitors since 1883.

(b) In the early 20th century, the observatory was administered by the Oakland Unified School District which made the facility an integral part of formal science education programs and also made it available for a large public program.

(c) The current Chabot Observatory and Science Center facility, consisting of a 1915-era observatory building, a separate planetarium, and several temporary classrooms and laboratories, severely limits the science center's ability to fulfill the vision for science education due to technological and structural safety issues, including its location directly on an active rift of the Hayward Fault and the interference from surrounding city lights that have encroached in the years since the observatory's construction and affect viewing through its historic 8-inch and 20-inch public telescopes.

(d) In 1989, Oakland's interest in having a regional science center that was responsive to the science education needs of its children and neighboring communities led to the creation of a joint powers agency by the City of Oakland, the Oakland Unified School District, and the East Bay Regional Park District, and these partner agencies have together contributed over $25,600,000 to this project.

(e) The Lewis Center for Educational Research began as a public educational facility under the Apple Valley Unified School District in 1990 and has provided science education programs for over 80,000 students throughout southern California during its eight years of operation. The center is home to a California public school, grades K through 12, operated by the High Desert ''Partnership in Academic Excellence'' Foundation, Incorporated (the foundation), a nonprofit educational foundation.

(f) Five hundred students attend science, astronomy, and aviation classes at the 11,000 square foot Lewis Center facility. Students can attend ground school and fly the T-40 Jet Flight Simulator provided by the United States

Air Force. Students also learn computer skills in the Gateway to Excellence Program sponsored by GTE, and work in the greenhouse or study physics in the laboratory.

(g) In partnership with NASA and the Jet Propulsion Laboratory (JPL) in Pasadena, the Lewis Center operates the DSS 12, a deep space antenna located at the Goldstone Deep Space Tracking Station. This $11,000,000 antenna was converted into a radio telescope for the Goldstone Apple Valley Radio Telescope project (GAVRT). Students from across California and the nation direct this powerful scientific instrument by remote control via telecommunications through ''Mission Control'' housed at the Lewis Center. Staff from the Lewis Center and JPL train teachers from all areas of the United States to perform scheduled missions with their students, providing interactive opportunities for students from diverse backgrounds and locations to work together via telecommunications to study the wonders of the heavens.

(h) The Lewis Center observatory, with its 14-inch telescope provides optical viewing to support the work of radio astronomers. The center operates a telescope on Mount Wilson by remote control through the Telescopes in Education Program. The center's growing expertise in remote operations of scientific equipment and status as the worldwide educational site for grades K-12, inclusive, radio astronomy will provide a powerful statewide linkage to the Chabot Observatory and Science Center.

(i) The vision of the new Chabot Observatory and Science Center and the Lewis Center for Educational Research is to create the nation's premier model for teaching science and technologies, where one can imagine, understand, and learn to shape the future through science.

(j) The goals of these two observatories and science centers are as follows:

(1) To present more effective and engaging ways for children and adults to explore science and technology.

(2) To train teachers in science education's best practices and new teaching technologies, and equip them with resources to use these in the classroom.

(3) To inspire students and their families to pursue higher levels of scientific literacy.

(4) To demonstrate the relevance of science and technology in everyday living.

(5) To electronically link these two innovative science centers together, and to link these centers with other similar organizations, via telecommunications and the Internet, to support a dynamic statewide science education platform.

(k) California's youth must be science-literate and comfortable with technology to be competitive job seekers, and it is widely recognized that the quality of science, mathematics, and environmental education needs to be improved in California and nationwide, and that there are endemic cycles of low achievement that persist in many high minority-enrolled public schools, low-income neighborhoods, rural areas, and historically underrepresented groups.

(*l*) These deficiencies are particularly pressing in the diverse San Francisco Bay area and the greater Los Angeles area, where the growth in science and technology-related industries has created an enormous demand for educated, skilled workers.

(m) Many respected researchers have demonstrated the need for a fundamental shift in methods of science teaching to emphasize curriculum that is project-based, anchored in a ''real world context,'' discovery oriented, and interdisciplinary, and the education of teachers must be approached in a different way to reflect new approaches to curriculum, activities, and student needs.

(n) The educational programs of the Chabot Observatory and Science Center and the Lewis Center for Educational Research complement and supplement the school district's efforts to implement a more effective educational model by offering a wide range of programs and resources that schools and districts cannot provide on their own. These science centers will create effective

statewide platforms for testing and evaluating distance learning, performance-based education, collaborative learning, and new experimental methods for education in the 21st century.

(o) The Chabot Observatory and Science Center and the Lewis Center for Educational Research place a major emphasis on engaging populations that are historically not well represented in science and technology education, including women, minorities, and low-income youth.

(p) The Chabot Observatory and Science Center has planned to build a new 77,000 square foot science education center in the Joaquin Miller Park of Oakland, to fulfill these goals and offer new programs for the people of the bay area.

(q) The Chabot Observatory and Science Center has raised over $47,400,000 to build a new science education center, including a $17,500,000 grant from the United States Air Force Office of Scientific Research. In recognition of its national significance, the Chabot Observatory and Science Center has been named a community affiliate of the Smithsonian Institution, one of eight in the country. Moreover, in conjunction with the White House Millennium Celebration Project, the Chabot Observatory and Science Center will link the nation’s 30 Challenger Centers as the lead for a national student project on Mars exploration.

(r) The citizens of Oakland in 1996 voted approval for $6,500,000 for this new facility through the general obligation bond act known as Measure I.

(s) The Chabot Observatory and Science Center has raised over $1,500,000 in peer-reviewed scientific grants, $785,000 from private foundations, $800,000 from corporations, and over $1,500,000 from individuals to support planning and design of this new science education center.

(t) This act will provide $5,000,000 in state funds for the Chabot Observatory and Science Center, and will leverage $4,000,000 in new federal grants and an $8,000,000 challenge grant from a private foundation that

is contingent on the state's contribution. This funding will enable completion of the observatory's west building, which includes a National Science Foundation-funded solar system dynamics modeling exhibition; a Challenger Center space mission simulator; the Teacher Research and Training Center; the library, computer lab, and media production studio; and the observatory's historic transit telescope. A significant feature of the west building is the Virtual Science Center, which enables classroom teachers throughout the state to call on Chabot's telescopes, laboratories, and media resources for everyday support in their classrooms. In addition, this funding will enable the building of three telescope observatories to house the eight-inch refractor, the 20-inch refractor, and a 36-inch reflector, the largest telescope open to the public on a regular basis in the United States.

(u) This new facility is scheduled to open in 1999, and will include the magnificent historic Chabot telescopes; a new 36-inch computerized telescope; a state-of-the-art planetarium; interactive science exhibits for children, adults, and families; a Challenger Center space station and mission control simulator; a telescope makers' workshop; a fiber optic-linked multimedia center; a virtual science center for continuous online access and education in homes, communities, libraries, and schools; infrared technology for multilingual programs; and flexible, integrated laboratory spaces for science exploration and education.

(v) The Lewis Center for Educational Research plans to purchase land and build a second facility, the Lewis Center for Earth Science. The location of the new building will take advantage of an environmentally rich portion of the Mojave River that is a destination for numerous migratory birds to provide students with onsite capability to study planet Earth up close. A large portion of the proposed tract of land will provide a preserve for native species in a highly unique biome of southern California.

(w) The new facility will be linked electronically to the Lewis and Chabot observatories to allow students from around the state to work collaboratively studying the environment of our home planet to compare and contrast the differences and similarities of objects within our solar system and those of deep space.

(x) The Lewis Center's current facility has been funded from community and business donations and other partnerships, including an $850,000 grant from the federal Department of Housing and Urban Development and $500,000 contributed from the foundation. In 1998, the Lewis Center received a $1,500,000 special purpose grant from NASA for teacher training, curriculum development, and student programs through GAVRT. The new facility will leverage funding provided by these partnerships.

(y) The new Lewis Center for Earth Science will include a planetarium, theater, classrooms, greenhouse, aviary, outdoor research areas, and remote sensing devices including television cameras to view the nocturnal creatures that inhabit this area. The expansion will enable 3,000 students per month to participate in field trip activities, and classes and will enable thousands more to participate online. A new mobile planetarium, telescope, and computer center will travel from the Lewis Center to schoolsites for a four-day intensive infusion of science and teaching strategies involving teachers, students, and families.

(z) The Chabot Observatory and Science Center and the Lewis Center for Educational Research will become California-based centerpiece institutions for public astronomy and science education in the country, and will contribute toward the improvement of science education and technological literacy for California students, teachers, and families.

(aa) Seven million dollars ($7,000,000) of support from the state will help make possible the timely completion of the new Chabot Observatory and Science Center by November 1999, and the Lewis Center for Earth Science by March 2000, with all facilities available to the public

and all education programs in place to serve the children, teachers, and families of the state.

SEC. 2. (a) A sum not to exceed seven million dollars ($7,000,000) is hereby appropriated from the General Fund to be allocated as follows:

(1) A sum not to exceed five million dollars ($5,000,000) to the Chabot Observatory and Science Center, a joint powers agency created by the City of Oakland, the Oakland Unified School District, and the East Bay Regional Park District, to fund the completion of the new Chabot Observatory and Science Center facility in Oakland and its programs for science education for the people of the state.

(2) A sum not to exceed two million dollars ($2,000,000) to the town of Apple Valley to administer a grant to the nonprofit High Desert ''Partnership in Academic Excellence'' Foundation, Incorporated to purchase land and build the Lewis Center for Earth Science.

(b) The Legislative Analyst shall review the use of the funds appropriated pursuant to subdivision (a) and shall submit to the Legislature a report on its findings upon the completion of the new Chabot Observatory and Science Center facility and the new Lewis Center for Earth Science.

Approved _____, 1998

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Governor